

A REMARKABLE NEW STENAMMA FROM COSTA RICA, WITH PERTINENT FACTS ON OTHER MEXICAN AND CENTRAL AMERICAN SPECIES (HYMENOPTERA: FORMICIDAE)

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WASHINGTON, D. C.

RECEIVED FOR PUBLICATION MARCH 2, 1961

ABSTRACT

A new species, *expolitum* is described from Colombiana Farm, Santa Clara Province, Costa Rica from workers and a dealate female. In addition, the four other known species are briefly redescribed: *diversum* Mann of Honduras; *felixi* Mann of Mexico, Honduras and Costa Rica; *manni* Wheeler of Mexico; *schmidtii* Menozzi of Costa Rica. A key is furnished for the identification of the workers of the five species.

The purpose of this paper is to describe an unusual species of *Stenamma* Westwood, and to present pertinent facts on known Mexican and Central American species of the genus. Other considerations that have led to the preparation of the paper are: (1) no inclusive paper has been published on the species that occur in Mexico and Central America; (2) types have been available to me of all but one of the species and (3) in the Amer. Midland Nat. 57(1): 133-174, illus. my revision of all the *Stenamma* of America, north of Mexico, was published. *Stenamma* have not been recorded from South America. The genus was thought to be entirely Holarctic in distribution until 1922 when Mann described two species, *diversum* and *felixi*, from the Neotropical Region. Mann found *diversum* such an atypical species of *Stenamma* that he commented at length on its peculiarity. At present five species are known from Mexico and Central America.

Stenamma diversum Mann

Stenamma diversum Mann, 1922, Proc. U. S. Natl. Mus. 61: 20-21, worker. Type loc.: Lombardia, Honduras; types in U. S. Natl. Mus. and Mus. Comp. Zool., Harvard Univ.

This species is well named and its peculiar habitus would certainly cause one to hesitate to assign the species to *Stenamma*.

Concerning this habitus, Mann remarked, "This species strikingly resembles some of the species of *Pristomyrmex* in its sculpture, it is like a small *Rogeria* in habitus and in having the inferior prothoracic corners angulate, but because of the 4 jointed antennal club and the structures of the head I have placed it in *Stenamma*, with doubt." Characters which especially distinguish the worker from workers of the typical species of *Stenamma* are: the short (2.25 mm.), stout body; the prominent subangular, thoracic humeri; angular inferior corners of the prothorax; posteriorly ascending base of the epinotum; the prominent pair of epinotal spines whose apices are directed dorsoposteriorly; the peculiar coarse, rugose-reticulate sculpture of the thorax; and the long, slender, apparently flexible body hairs. So far as I am aware the species is known only from the types. Mann's only remark concerning the ant's biology is that the species was "described from two workers collected beneath a stone."

Stenamma felixi Mann

Stenamma felixi Mann, 1922, Proc. U. S. Natl. Mus. 61: 21-23, fig. 10 (a, b), worker. Type loc.: San Juan Pueblo, Honduras; types in U. S. Natl. Mus. and Mus. Comp. Zool., Harvard Univ.

The worker of *felixi* is characterized by its large size (3.75 mm.), black or very dark brown body with lighter appendages, and its rather coarse sculpture. In addition to other sculpturing, the middle of the head and the dorsal surface of the anterior part of the thorax may be longitudinally rugulose, this being more distinct on the head than on the thorax. The epinotum appears transversely rugulose and the pronotal collar may be transversely rugulose in some individuals. The epinotum is unarmed and the petiolar node is high and distinctly subconical when viewed posteriorly. Mann's illustration of the worker is unusually good. Nothing is known about the biology of this species except the finding of specimens on orchid plants in quarantine. Apparently *felixi* is one of the common, if not the most common, species of *Stenamma* recorded in this paper.

In addition to the type locality the species has been collected from the following localities: *Mexico*, Jalapa, intercepted on orchid plants at Washington, D. C., July 8, 1914 by E. R. Sasser.

—*Costa Rica*, Navarro Farm, March 1924, W. M. Mann; La Carpentera, April 1924, W. M. Mann, and Hondura, 1060 m., June 20, 1926, C. F. Nevermann.

Stenamma manni Wheeler

Stenamma manni Wheeler, 1914, Jour. N. Y. Ent. Soc. 22: 51, worker, alate female. Type loc.: on the trail between Real del Monte and El Chico, State of Hidalgo, Mexico, 10,000–11,000 ft.; types in U. S. Natl. Mus. and Mus. Comp. Zool., Harvard Univ.

I consider the original description of *manni* inadequate. The following characters of the worker of this species are based on my examination of type specimens. The worker is slender of form, 2.5–3.5 mm. in length, black in body color with the mandibles, clypeus and legs, especially the tibiae and tarsi, lighter. The sculpturing, although not coarse, is uniformly extended over the body except the gaster; the sculpturing consists largely of fine punctures interspersed among other sculpturing such as striae, rugulae, or reticulae according to the area of the body being examined; in some lights the sculpturing appears subopaque and with a grayish cast; in other lights the same sculpturing appears slightly shiny and lacking any grayish or other cast. The eye is about average size, 0.12 mm. in its greatest diameter, and contains about 9 or 10 ommatidia. The mesoepinotal impression is unusually broad and deep.

In addition to the type locality, the species has been collected by E. O. Wilson at Rancho Somecla, S. sl. P. Orizaba, Vera Cruz, Mexico, 3,700 m., Aug. 24, 1953, meadow, pine-oak cloud forest. Both workers and alate females were collected. According to Mann the type specimens were collected from two colonies “which were nesting under large stones in a damp spot in the pine forest.”

Stenamma schmidtii Menozzi

Stenamma schmidtii Menozzi, 1931, Stettin Ent. Ztg. j. 92, h. 2, pps. 198–200, figs. 5, 6, worker, dealate female. Type loc.: Vara Blanca, 2000 m., Costa Rica; types in Deutsches Ent. Mus. and author's collection.—Menozzi, 1931, Boll. Lab. Zool. Portici 25: 267 (distribution, also remarks on type locality).—Borgmeier, 1937, Arch. Inst. Biol. Veg. (Rio de

Janeiro) 3: 232 (distribution, few notes on taxonomy of worker).

I have not seen the types but have studied two workers of this species in the U. S. Natl. Mus. that were collected at La Palma, Costa Rica, by Tristan and considered as *schmidtii* by Menozzi. These specimens check with Menozzi's description. On the basis of the two workers the species may be characterized as follows: The worker is approximately 3 mm. in length, slender, with black body and lighter appendages. The body sculpturing is weak. The posterior border of the head and the pronotum are smooth and shiny, and the dorsum of the epinotum is finely and transversely rugulose. The eye is 0.13 mm. in its greatest diameter with 9 or 10 ommatida. The epinotum bears a pair of very small but distinct tubercles.

In addition to the type locality, *schmidtii* has been collected from other localities in Costa Rica as follows: San Jose and La Palma, F. I. Tristan, dealate female and workers; and Hamburg Farm near San Jose, Feb. 24, 1929, F. Nevermann, dealate females and workers. Menozzi determined the individuals collected by Tristan at La Palma and San Jose, and Borgmeier determined the individuals collected by Nevermann at Hamburg Farm. Apparently nothing has been published on the biology of this species.

***Stenammina expolitum*, new species**

WORKER Length 3.7 mm. Head subrectangular, with moderately convex sides, rounded posterior corners and straight or almost imperceptibly emarginate posterior border; greatest length of head (excluding the mandibles) 0.85 mm., greatest width 0.75 mm. Mandible subtriangular, with 4 or 5 distinct apical teeth, the basal teeth vestigial or absent. Antenna 12-segmented, apex of scape attaining the posterior border of the head, last 4 segments of the funiculus noticeably enlarged, the combined lengths of these segments exceeding the length of the remainder of the funiculus. Clypeus with a pair of weak longitudinal carinae between which there is a shallow groove leading to the emargination at the middle of the anterior border of the clypeus. Greatest diameter of the eye is approximately 0.13 mm. with 7 or 8 ommatidia. In profile, the outline of the promesonotum forms a strong and rather even convexity. Mesoepinotal impression well-developed, broad and rather deep. Base of epinotum weakly convex, meeting the declivity in a scarcely perceptible angle. The junction of these two surfaces bears no spines or tubercles. From above, the promesonotum appears compressed on each side and forms dorsally distinct but rather rounded humeri. Legs

moderately long and slender but with somewhat incrassated femora and tibiae. Petiole, from above, with a slender elongate pedicel and a node that when viewed posteriorly is slender, subconical. Postpetiolar node larger than the node of the petiole, longer than wide, subpyriform, narrowest anteriorly. Gaster oblong, without basal humeri, the first segment occupying much of the dorsal surface of the gaster.

Body almost entirely smooth and shiny with the following exceptions: Some fine longitudinal striae on the front of the head and some fine longitudinal rugulae on the cheeks, dorsal surface of head with fine, scattered hair-bearing punctures; metapleura irregularly sculptured, the thorax with weak sculpture in the sutures and fairly coarse transverse rugulae on the dorsal surface of the epinotum.

Hair grayish or yellowish depending upon the light, moderately abundant, long, suberect to erect, shorter and more reclinate on the scapes and legs.

Body black or very dark brown with lighter appendages and apex of gaster.

DEALATE female Length 4.6 mm. Slightly larger than the worker, with the thorax especially stouter. Head larger and proportionally broader, the greatest length (excluding the mandibles) 0.9 mm., greatest breadth 0.83 mm. Ocelli extremely small and pale. Eye larger, 0.2 mm. in its greatest diameter and containing 14 or 15 ommatidia. Base of epinotum longer than the declivity and meeting the latter at an angle, no spines or tubercles at the junction of these areas. Sculpture of the body, especially on the dorsum of the thorax, generally coarser and more extensive than that of the worker but with the pilosity and color similar.

Workers vary relatively little in size, the lengths ranging from 3.7 mm.—4.05 mm. The heads of some individuals are notably more slender than others. The basal mandibular teeth vary greatly in number, size, and placement. A striking difference also occurs in the degree of development of the mesoepinotal impression; it is broad and deep in some individuals and narrow and shallow in others.

The worker of *expolitus* is characterized by its almost smooth and shiny body; long scape, the apex of which attains the posterior border of the head; the rounded but distinct pronotal humeri; and the unarmed epinotum, the dorsal surface of which is transversely rugulose. I do not know of any species of *Stenamma* that is closely related to *expolitus*. The smooth, shiny surface of the body is unique and I have chosen to emphasize this peculiarity by naming the ant *Stenamma expolitus*.

The species has been described from the holotype, 12 paratype workers, and a dealate paratype female.

Type locality: Colombiana Farm, Santa Clara Province, Costa Rica, March–April 1924, W. M. Mann.

The types have been distributed as follows: The holotype, 7 paratype workers, and a dealate paratype female to the U. S. National Museum; 3 paratype workers to the Museum of Comparative Zoology, Harvard University; and 3 paratype workers to the American Museum of Natural History. All of these bear U. S. N. M. No. 65967.

The biology of *S. expolitus* is unknown.

Key for the Identification of the Workers of the
Species of *Stenamma* of Mexico and Central America

- 1—Body smooth and shiny except for a few minor areas, (epinotum unarmed), Costa Rica—*expositum*, n. sp.
 Body not as described above 2
- 2—Epinotum armed 3
 Epinotum unarmed, (epinotum, especially posteriorly, bearing transverse rugulae in addition to other sculpturing, petiolar node high, subconical when viewed posteriorly), Mexico, Honduras, Costa Rica—*felixi* Mann
- 3—Head mostly smooth and shiny, epinotum bearing a pair of well-developed, acutely tipped spines 0.2 mm. in length, (thorax coarsely rugulose-reticulate; body hairs rather abundant, long and slender, suberect to erect), Honduras—*diversum* Mann
 Head and thorax not as described above; epinotum bearing a pair of weakly developed or vestigial tuberclelike spines 4
- 4—Pronotum and much of mesonotum smooth and shiny; epinotal tubercles very vestigial, Costa Rica *schmidti* Menozzi
 Pronotum and much of mesonotum with fine longitudinal rugulae and interrugal punctures, which give these regions a subopaque cast; epinotal tubercles small but not vestigial, Mexico—*manni* Wheeler